



# 2015 Minerals Yearbook

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**EGYPT [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF EGYPT

By Mowafa Taib

In 2015, Egypt was Africa's leading producer of cement, direct-reduced iron (DRI), and nitrogen fertilizer; the second-ranked producer of crude steel after South Africa and refined petroleum products after Algeria; the third-ranked producer of natural gas after Algeria and Nigeria; and the fourth-ranked producer of crude petroleum after Nigeria, Angola, and Algeria. Furthermore, the country exported aluminum, cement, feldspar, gold, kaolin, manganese, nitrogen fertilizer, phosphate rock, quartz, and talc. Metal and mineral-based commodities produced by companies in Egypt included aluminum, secondary copper, ferroalloys, gold, iron ore, and manganese. Egypt also produced such industrial minerals as barite, bentonite, dolomite, feldspar, fluorspar, granite, gypsum, kaolin, ilmenite, limestone, marble, phosphate rock, quartz, sand and gravel, silica sand, sodium compounds (such as salt and soda ash), sulfur, talc, and vermiculite (table 1; BP p.l.c., 2016, p. 8, 16, 22; Midrex Technologies, Inc., 2016, p. 7, 8; World Steel Association, 2016, p. 2, 97; Apodaca, 2017; van Oss, 2017).

The Egyptian Mineral Resources Authority (EMRA) estimated the country's major metallic mineral resources to be 900 million metric tons (Mt) of iron ore, 224 Mt of heavy metals (arsenic, cadmium, copper, chromium, lead, mercury, thallium, and zinc), 8 Mt of molybdenum, 2.5 Mt of tin, and 2.2 Mt of strontium. The EMRA also identified large quantities of such industrial minerals as limestone [587 billion metric tons (Gt)], clay (200 Gt), silica sand (5 Gt), dimension stone (4.2 Gt), phosphate rock and dolomite (1.2 Gt each), feldspar and gypsum (1.0 Gt each), bentonite (150 Mt), quartz (60 Mt), ilmenite (40 Mt), nepheline syenite (26 Mt), coal (21 Mt), and barite [162,000 metric tons (t)] (Egyptian Mineral Resources Authority, 2014, p. 10, 11; Sayed, 2016, p. 114–115).

Egypt's mineral industry continued to be affected by a shortage of natural gas supply from the state-owned Egyptian Natural Gas Holding Co. (EGAS) in 2015. EGAS found it necessary to reduce natural gas allocations to such industries as cement, fertilizer, and steel production to offset increases in electricity consumption. The increase in natural gas consumption coupled with a decrease in production caused a shift in Egypt's natural gas trade balance, and Egypt went from being a net exporter to being a net importer in recent years. Thus, the Government began importing natural gas [in the form of liquefied natural gas (LNG)] from Algeria and Russia and by pipeline from Israel. Additionally, EGAS increased the price that it paid to such companies as Apache Oil Corp. of the United States, BP p.l.c. of the United Kingdom, and Eni S.p.A. of Italy, which produced natural gas in Egypt, to enable the development of recently discovered gasfields in the country. For steel producers, the natural gas supply was expected to increase in the short term. The Government leased two floating storage and regasification units in 2015 to store LNG, which was converted into natural gas for electricity generation. A third unit was expected to be deployed by yearend 2016. The

Government allowed mineral industries to import coal and natural gas directly to meet their increased demand (U.S. Energy Information Administration, 2015; Meighan, 2016).

## Minerals in the National Economy

In calendar year 2015, the gross domestic product (GDP) of Egypt, which had a nominal value of \$330.2 billion, increased in real terms by 3.1% compared with an increase of 2.2% in 2014. In fiscal year 2015 (July 1, 2014, through June 30, 2015), the share of the mining sector in the Egyptian economy decreased to 13.7% of the GDP from 14.8% in fiscal year 2014; the share of the manufacturing sector, which included the manufacture of aluminum, cement, fertilizers, and iron and steel, and the refining of petroleum, decreased to 16.3% of the GDP from 16.4%, and the share of the construction sector increased to 4.7% of the GDP from 4.5%. At constant prices, mineral sector activity decreased by 4.1% in fiscal year 2015 compared with a decrease of 3.8% in fiscal year 2014, whereas activity in the construction and the manufacturing sectors increased by 9.7% and 7.4%, respectively (Central Bank of Egypt, 2016a, p. 51, 113).

In 2015, the flow of foreign direct investment (FDI) into Egypt increased by about 50% to \$6.9 billion from \$4.6 billion in 2014. FDI flows have fluctuated sharply in recent years, ranging from \$6.4 billion in 2010 to -\$483 million in 2011. The sharp decrease was attributed to the political developments that had taken place in Egypt following the civil unrest in January 2011. Most of the FDI in Egypt in 2015 went to the petroleum (60%), construction (6%), and manufacturing (2%) sectors. Greenfield projects in all sectors of the economy received a combined \$1.7 billion. The flow of FDI from Egypt decreased by about 16% to \$182 million in 2015 from \$253 million in 2014 (Central Bank of Egypt, 2016b, p. 5; United Nations Conference on Trade and Development, 2016, p. 38, 196, 210).

## Government Policies and Programs

In 2015, law No. 198 of December 8, 2014, became Egypt's new mining law. The law was intended to address issues related to revenue sharing between the Government and the Provinces. The old mining law, which was based on law No. 66 of 1953 and law No. 86 of 1956, had been amended only twice (in 1957 and 1964) and generated little revenue for the Government owing to fixed fees paid in local currency by mining and quarrying companies that had been established more than a half a century ago.

The new mining law increased the annual exploration and mining fees for each square kilometer of the permit area to 5,000 Egyptian pounds (about \$700) per square kilometer from 40 Egyptian pounds (\$5.30) per square kilometer. The law also introduced a 5% royalty on annual production to be paid to the Government plus a 1% "corporate social responsibility" fee for

local municipalities in which the mining companies operate (Kabil, 2015; Egyptian Mineral Resources Authority, 2016c).

Investment law No. 8 of 1997 provides the legal framework for several mining companies that were established in the country in the early 2000s. Law No. 198 of 2014 protects investments in the country by both foreign and domestic companies against nationalization and provides incentives for investing in mining and in the manufacturing of fertilizers and petrochemicals in the country's free trade zones (Egyptian Mineral Resources Authority, 2016b, c).

In March, the Government outlined the country's medium-term development strategy for international and local investors and provided an overview for potential investment opportunities in all sectors of the Egyptian economy. Potential projects in the mining sector included bentonite mining and processing at the El Sebaaya Valley; countrywide bidding rounds for mineral exploration licensing; the development of the Golden Triangle gold project and other associated mineral exploration projects in the areas of Qena, El Quseir, and Safaga; and the construction of a phosphate-based products plant at the Abu Tartur phosphate mine (Egypt for the Future, 2015, p. 29).

## Production

Notable increases in mineral commodity output in 2015 compared with that in 2014 included that of bentonite (by 1,103%), mica (240%), vermiculite (203%), barite (89%), gold (16%), kerosene and jet fuel (12%), and gypsum (10%). The sharp increase in the production of bentonite and mica was attributed to lower than average estimates of output in 2014. Notable decreases in mineral commodity production in 2015 compared with that of 2014 included that of tin (by 100%); liquefied petroleum gas (60%); manganese (32%); kaolin (23%); talc (22%); ammonia (18%); crude steel, DRI, and wire rod (15% each); and gasoline and naphtha (13%). Data on mineral production are in table 1.

## Structure of the Mineral Industry

The structure of the mineral industry of Egypt was mixed in terms of ownership. It included private, public, and state-owned companies. Some international mining and petroleum companies formed joint ventures with local public and state-owned companies. The Ministry of Petroleum and Mineral Resources (MPMR) managed the country's mining and hydrocarbon sectors. The Ministry of Defense had substantial control over the country's mineral resources; it owned Abu Zaabal Fertilizer Co., El Nasr Mining Co., and El Nasr Company for Intermediate Chemicals in addition to several specialized chemicals plants. The MPMR had five independently managed entities—Egyptian General Petroleum Corp. (EGPC), EGAS, Egyptian Petrochemical Holdings Co., EMRA, and Ganoub El Wadi Holding Co. (Ganope). The EMRA was responsible for conducting geologic mapping and mineral exploration and for issuing mining permits; it held shares in three mining companies—Al Wadi Al Gadid Company for Mineral Resources and Oil Shale (Wadico), the Egyptian Company for Mineral Resources (ECMR), and Shalateen Mineral Resources Co. The EMRA's mineral development strategy was to mine 60% of the

country's mineral reserves within the next 30 years and to leave the remaining 40% untouched (Egyptian Mineral Resources Authority, 2014; MEED, 2015).

Wadico was formed in 2007 in Kharga City to develop oil shale and mineral resources in the New Valley in southwestern Egypt. The company's shareholders were Ganope (65%), Petrojet Co. (25%), Nile Petroleum Co. (5%), and EMRA (5%). Wadico had the capacity to produce unspecified quantities of ball clay, feldspar, iron oxides (hematite and limonite), kaolin, phosphate rock, quartz, and talc at the Kharga Oasis in Western Desert. The company planned to produce calcium carbonate for soda ash, granite, limestone for cement, and marble (Al Wadi Al Gadid Company for Mineral Resources and Oil Shale, 2016).

The Holding Company for Metallurgical Industries (HCMI) was an Egyptian joint-stock holding company created to operate under the Ministry of Business Sector. It had several affiliates that included Aluminium Co. of Egypt (Egyptalum), Delta Steel Mill Co., Egyptian Co. for Metallic Construction, Egyptian Copper Works Co., Egyptian Ferroalloys Co., Egyptian Iron and Steel Co. (Hadisob), El Nasr Coke and Chemicals Co., El Nasr Forging Co., El Nasr Mining Co., El Nasr Pipes and Fittings Co., and the General Co. for Ceramics and Porcelain. El Nasr Mining Co. produced several mineral commodities across the country, including ball clay, barite, common clay, feldspar, fluorspar, gypsum, ilmenite, iron oxides, kaolin, magnesite, phosphate rock, quartz, and talc. The company exported mineral commodities from its three export ports at Abu Ghusun, Hamrawein, and Safaga on the Red Sea. Table 2 is a list of major mineral industry facilities (El Nasr Mining Co., 2016; Holding Company for Metallurgical Industries, 2016).

## Mineral Trade

Egypt's total exports continued to decrease in value for the fifth year; they decreased by 18% to \$22.0 billion in 2015 from \$26.8 billion in 2014 and by 30% from \$31.6 billion in 2011. Exports of crude petroleum decreased by 33% to \$2.0 billion in 2015 from \$3.0 billion in 2014; natural gas, by 62% to \$145 million from \$380 million; refined petroleum products, by 38% to \$1.5 billion from \$2.4 billion; gold, by 4% to \$631 million from \$659 million; and nitrogen fertilizers, by 50% to \$332 million from \$645 million (Central Bank of Egypt, 2016b, p. 93; United Nations Statistics Division, 2016, p. 160).

In fiscal year 2016 (July 1, 2015, through June 30, 2016), Egypt exported 3.8 Mt of phosphate rock valued at \$196 million; 88,000 t of quartz valued at \$6.1 million; 40,000 t of manganese valued at about \$1.8 million; 39,000 t of talc valued at \$11.2 million; 33,000 t of iron oxide valued at about \$1.8 million; 19,000 t of kaolin valued at about \$1.9 million; and 7,500 t of feldspar valued at \$539,000 (Sayed, 2016).

According to HCMI, the total tonnage of mineral exports by its affiliated companies decreased to 1.3 Mt in fiscal year 2015 from 3.0 Mt in fiscal year 2014. The value of HCMI's affiliated companies' mineral exports also decreased to \$554 million in fiscal year 2015 from \$650 million in fiscal year 2014 and \$931 million in fiscal year 2013. These exports included 168,000 t of aluminum products, which were produced by Egyptalum and valued at \$403 million; 56,100 t of ferroalloys, which were produced by Egyptian Ferroalloys and valued at

\$54 million; 45,000 t of iron and steel products, which were produced by Hadisolb and valued at \$23 million; 3,200 t of aluminum and copper products, which were produced by Egyptian Copper Works Co. and valued at \$10.7 million; and 18,800 t of coke, ammonia, and nitric acid, which was produced by El Nasr Coke and valued at \$6.7 million. El Nasr Mining Co.'s total exports amounted 1.0 Mt and were valued at \$50 million, including 986,273 t of phosphate rock valued at \$50 million and 30 t of manganese valued at \$1,000 (Holding Company for Metallurgical Industries, 2016).

The value of Egypt's exports to the United States was \$1.4 billion in 2015, which was unchanged from that of 2014 but remained 53% less than that of 2012. The main exports were fertilizers, which decreased in value to \$33 million from \$79 million; iron and steel products, which increased to \$6 million from \$3.7 million; stone, sand, and cement, which was about \$16 million in 2015 and 2014; bauxite and aluminum, which decreased to \$627,000 from \$7.5 million; and sulfur, which decreased to \$100,000 from \$3.7 million (U.S. Census Bureau, 2016b).

In 2015, the value of Egypt's imports increased to \$74.4 billion from \$71.3 billion in 2014. The country's crude petroleum imports decreased to \$1.8 billion from \$3.0 billion in 2014, whereas the value of petroleum products imports increased to \$7.1 billion from \$5.5 billion in 2014, and the value of imports of natural gas and other petroleum gases increased to \$2.5 billion from about \$1.0 billion in 2014. The value of steel imports decreased to about \$1.0 billion from \$1.3 billion in 2015. In terms of tonnage, Egypt imported 7.9 Mt of semifinished steel products (semis) and finished steel products in 2015, including about 3.6 Mt of ingots and semis, 2.5 Mt of long, 1.4 Mt of flat, and 392,000 t of tubular steel products. Egypt also imported 2.2 Mt of iron ore, 928,000 t of scrap, and 177,000 t of pig iron (United Nations Statistics Division, 2016, p. 161; World Steel Association, 2016, 57, 62, 67, 72, 77, 95, 105, 110, 112).

In 2015, Egypt's imports from the United States decreased by 26% to \$4.8 billion from \$6.5 billion in 2014. The major mineral commodities and mineral-related imports were fuel oil, which decreased to \$320 million from \$991 million in 2014; steelmaking materials, to \$50 million from \$286 million in 2014; chemicals, to \$175 million; other petroleum products, to \$156 million; and metallurgical-grade coal, to \$15 million (U.S. Census Bureau, 2016a).

## Commodity Review

### Metals

**Aluminum.**—Egyptalum was the country's sole producer of primary aluminum. The company was owned by HCMI (90%) and private investors (10%). The Egyptalum aluminum smelter consisted of six potlines that included 552 cells and 12 potrooms. The company had the capacity to produce 320,000 metric tons per year (t/yr) of aluminum, including billet (95,000 t/yr); rolled products (85,000 t/yr); ingots, slabs, and tee-bar (35,000 t/yr); wire rods (75,000 t/yr); and foundry alloys and extrusion profiles (15,000 t/yr each). The company also had the capacity to produce

160,000 t/yr of cathode blocks using 140,000 t/yr of petroleum coke (Egyptian Aluminium Co., 2015, p. 4).

Arab Aluminum Co. S.A.E. produced a wide range of secondary aluminum products, including bar, angles, and tubes; it had the capacity to produce 15,000 t/yr of aluminum products. The company claimed a 40% share of the local market and exported 15% of its output. Other secondary aluminum producers in Egypt included Egyptian Aluminium Products Co. (Alumisir), which had two plants at El-Obour City and Helwan; Egyptian Copper Works Co., which produced aluminum sheets and wire; and Helwan Company for Nonferrous Industries (table 2; Arab Aluminum Co. S.A.E., 2016).

**Gold.**—Sukari Gold Mine Co. was the only gold mine in operation in Egypt in 2015. The company processed 10.6 Mt of ore and produced 13,700 kilograms (kg) (reported as 439,000 troy ounces) of gold compared with 8.4 Mt of ore processed and 11,700 kg (reported as 377,000 troy ounces) of gold produced in 2014. The Sukari Mine, which was owned by a 50–50 joint venture of Centamin plc of the United Kingdom and ECMR, began production as an open pit mine and, in 2011, was extended underground. The measured and indicated mineral resource at the Sukari Mine (open pit and underground combined) was 386 Mt grading 1.03 grams per metric ton (g/t) gold for a total of 401 t (12.9 million troy ounces) of gold and the reserves were estimated to be 253 Mt of ore grading 1.09 g/t gold for a total of 270 t (8.8 million troy ounces) of gold. In 2015, Centamin completed a second 11-million-metric-ton-per-year (Mt/yr)-capacity processing plant, following the completion of a 10-Mt/yr-capacity processing plant in 2014. The expansion plan was expected to increase the annual output to 16,000 kg (500,000 troy ounces) by 2017 for the projected 20-year life of the mine (Centamin plc, 2016a, b).

Hamash Misr for Gold Mines, which was a 50–50 joint venture between Matz Holdings Ltd. of Cyprus and ECMR, had been exploring for the Hamash and the West Dungash concessions, which are located in the Eastern Desert. In 2014, the company carried out a 5,750-meter drilling program at the West Dungash site and identified 9,000 kg of gold resources at Abu Marawat in the East Dungash deposit. Matz Holdings planned to start a prefeasibility study for the construction of a gold mine on the West Dungash deposit, which held estimated measured and indicated resources of between 6,000 and 9,000 kg of gold (Matz Holdings Ltd., 2015; Egyptian Mineral Resources Authority, 2016a).

Thani Stratex Resources Ltd. was a partnership of Thani Emirates Resources Holdings (Thani) (69.6% interest) and Stratex International Plc of the United Kingdom (30.4%) that was formed to focus on gold mine development in Djibouti, Egypt, and Ethiopia. Thani held the Hodine license at Anbat-Shakoosh, which is located in the Hutite district in southeastern Egypt. Alexander Nubia Inc. of Canada, which changed its name to Aton Resources Inc. in 2015, was focused on developing the gold resources of the Arabian-Nubian Shield. The company had been exploring for gold at four blocks in eastern Egypt—these included the Abu Marawat, the Abu Zawal, the Hamama, and the Rouh Al Hadid Blocks (Aton Resources Inc., 2016; Stratex International Plc, 2016).

The Government's plan to conduct an international gold exploration bidding round for four concessions in the Eastern Desert and one concession on the Sinai Peninsula was postponed until 2017. The four concessions in the Eastern Desert were located at the Bokari, Umm El Rus, Umm Samra, and Umm Ud and Hangaliya areas. The fifth concession was located southwest of Dahab City in southern Sinai (Egyptian Mineral Resources Authority, 2016b).

**Iron and Steel.**—Egypt's production of crude steel decreased by 15% to 5.5 Mt in 2015 from about 6.5 Mt in 2014. The decrease was attributable to insufficient supply of natural gas to power steel plants and to decreased demand for steel products in the country in 2015. Production of hot-rolled steel decreased to about 7.7 Mt from about 8.1 Mt in 2014; of this amount, 91% was long products, 11% was wire rod, and 9% was flat products (table 1; World Steel Association, 2016, p. 2, 32, 34–35).

Al Ezz Steel Rebars S.A. (Ezz Steel) continued to be the country's leading producer of steel and had a total capacity of 5.8 Mt/yr of steel products. Ezz Steel had four steel plants in Egypt—the Alexandria plant, which had the capacity to produce 3.0 Mt/yr of flat steel, reinforcing-steel bar (rebar), and steel wire; the Suez plant, which was completed in 2011 and had the capacity to produce 1.3 Mt/yr of flat steel; the Sadat City plant, which produced 1.0 Mt/yr of rebar; and the Tenth of Ramadan City plant, which produced 500,000 t/yr of rebar and steel wire (Al Ezz Steel Rebars S.A., 2016).

Suez Steel Co. (Solb Misr) was Egypt's second largest steel company in terms of production capacity. The company, which was also known as Hadidna, had an integrated steel complex in the Suez Industrial Area on the Red Sea Bay that included four rolling mills, two melting shops, a DRI plant, and a lime plant. Solb Misr produced 1.5 Mt/yr of long-steel products and had the capacity to produce 2.5 Mt/yr of finished steel products and 1.95 Mt/yr of DRI (Suez Steel Co., 2016).

The Egyptian Steel Group comprised Industrial Investment Co. for Steel Plants Management Co. (IIC) and National Port Said Steel Co. (NPSS). The IIC operated a steel mill in Alexandria that produced 300,000 t/yr of steel wire and was constructing an electric-arc furnace (EAF) plant at Beni Suef that would have the capacity to produce 830,000 t/yr of billet and a steel mill that would have the capacity to produce 530,000 t/yr of rebar. The Beni Suef plant was expected to begin production in the second half of 2016. NPSS depended on billet from the local market and on imports to feed its 350,000-t/yr rebar mill in Port Said. In 2015, the company was building an EAF plant at Ain Al-Sokhna that would be fed with scrap and would have the capacity to produce 830,000 t/yr of billet. The billet would be used to feed the steel mill, which was being built, to produce 530,000 t/yr of rebar. The NPSS plants were expected to be completed by late 2017 (Egyptian Steel Group, 2016).

**Tantalum.**—Gippsland Ltd. of Australia, which owned a 50% interest in the Abu Dabbab tantalum-tin-feldspar project, changed its name to Arrowhead Resources Ltd. in September 2015 after ending its involvement in the project owing to an expropriation dispute with the Government, which was represented by ECMR. Arrowhead Resources claimed that ECMR sought to dissolve the joint venture. ECMR in turn claimed that Arrowhead Resources had abandoned the project,

a claim that was denied by the company. Arrowhead Resources, which had invested \$30 million in the project's development, subsequently stopped funding project-related activities. The Government transferred the project's management responsibilities to the Ministry of Defense, which was expected to develop the Abu Dabbab Mine through its subsidiary El Nasr Mining Co. in partnership with an international mining company. The combined measured, indicated, and inferred resources of the Abu Dabbab deposit were estimated to be 44.5 Mt grading 250 g/t tantalum pentoxide ( $Ta_2O_5$ ) and 0.09% tin at a cutoff grade of 100 g/t  $Ta_2O_5$  (Gippsland Ltd., 2015; ITRI, 2015).

### *Industrial Minerals*

**Cement.**—In 2015, cement production in Egypt increased to 51.6 Mt from 49.1 Mt in 2014. The increase in production in 2015 was attributed to the conversion of most cement plants in Egypt to the use of coal instead of natural gas for fuel supply following the Government's decision to cut off the supply of natural gas and fuel oil to cement plants in order to have a sufficient supply for power generation, which would avoid blackouts and consequent public unrest. By yearend 2015, the country had 24 cement plants with a total production capacity of about 60 Mt/yr compared with 50 Mt/yr in 2010 (table 2; International Cement Review, 2015, p. 123; Global Connections, 2016).

South Valley Cement Co., which operated a cement plant in the Beni Suef Industrial Zone south of Cairo, planned to add two 1.5-Mt/yr-capacity lines. The first line was contracted to Sinoma International Engineering Co. Ltd. of China in August 2015, and the second line was expected to be contracted by 2017. The Ministry of Defense completed the construction of two new production lines at its cement plant at Al Arish in Northern Sinai Governorate (International Cement Review, 2015, p. 123).

**Nitrogen.**—Production of ammonia and urea decreased significantly for the second year in 2015 compared with that of 2013. The decrease was attributed to shortages in natural gas supply to fertilizer and chemical companies in the country. Ten companies produced a combined total of about 2.2 Mt of ammonia (1.8 Mt of nitrogen content) in 2015, which was 18% less than production in 2014. The top producers of ammonia in 2014 included Abu Qir Fertilizer & Chemical Industries Co., which was responsible for about 40% of the country's total production; Helwan Fertilizers Co. (12%); and Egyptian Fertilizers Co. (EFC) and Misr Fertilizer Production Co. S.A.E. (MOPCO) (10% each). Other producers included Egyptian Chemical Industries-KIMA, El Delta Company for Fertilizers and Chemical Industries (ASMEDA), El Nasr Fertilizers and Chemicals Co. (SEMADCO), and Egyptian Basic Industries Corp. (EBIC) (Arab Fertilizer Association, 2015, p. 35).

In Egypt, six companies produced 3.3 Mt of urea (1.5 Mt of nitrogen content) in 2015, which was unchanged from that of 2014 but was 17% less than that in 2013. Abu Qir Fertilizer & Chemical Industries was the leading producer of urea in the country and accounted for 33% of the country's total production, followed by EFC (19%), Helwan Fertilizer (about 16%), MOPCO (13%), Alexandria Fertilizer Co. (Alexfert) (11%), and El Delta Co. (9%) (Arab Fertilizer Association, 2015, p. 37, 40).

In 2015, MOPCO was building two additional ammonia production units at the Rehab Industrial Free Zone after securing a \$2 billion loan to triple its urea production capacity to about 2 Mt/yr from 650,000 t/yr. MOPCO's main shareholders included Arab Petroleum Corp., EGAS, Egyptian Petrochemicals Holding Co., Misr Insurance Co., Misr Life Insurance, Nasser Social Bank, the National Bank of Egypt, and the National Investment Bank (Arab Finance, 2015).

OCI N.V. of the Netherlands produced ammonia, granulated urea, and other nitrate fertilizers at its plants in Egypt. OCI had a majority ownership in two nitrogen fertilizer companies in Egypt—EBIC and EFC. The EBIC plant at Ain Al-Sokhna was 60% owned by OCI and had the capacity to produce 730,000 t/yr of anhydrous ammonia. The export-focused plant had a dedicated 8-km pipeline from the plant to a refrigerated bulk liquid export jetty on the Suez Canal. The EFC plant was wholly owned by OCI and had the capacity to produce 1.55 Mt/yr of urea and 325,000 t/yr of ammonium nitrate fertilizer (OCI N.V., 2016).

**Phosphate Rock.**—In 2015, Egypt's phosphate rock output decreased slightly to 5.3 Mt from 5.4 Mt in 2014. Phosphate Misr Co. S.A.E (PMC) became the leading producer of phosphate rock in the country in 2015; it produced about 2.4 Mt of phosphate rock compared with 1.6 Mt in 2014. PMC had the capacity to produce 3 Mt/yr of phosphate rock grading between 25% P<sub>2</sub>O<sub>5</sub> and 31% P<sub>2</sub>O<sub>5</sub>. The company operated the New Valley phosphate rock mines, which are located on the Abu Tartur plateau. El Nasr Mining Co. became the second-ranked producer of phosphate rock in Egypt in 2015; it produced 2.0 Mt of phosphate rock from the East El Sebaaya Mine, the West El Sebaaya Mine, and the Red Sea Mine at El Quseir (El Nasr Mining Co., 2016). Wadico and ECMR produced 568,000 t and 335,000 t, respectively (Al Wadi Al Gadid Company for Mineral Resources and Oil Shale, 2016; Phosphate Misr Co., 2016; Sayed, 2016, p. 123).

In December, the Government assigned El-Nasr Company for Intermediate Chemicals (a subsidiary of the National Services Products Organization of the Ministry of Defense) to build and operate the Ain-Sokhna Phosphatic Fertilizer Complex. The complex would have the capacity to produce 1 Mt/yr of phosphate-based fertilizer, including diammonium phosphate, phosphoric acid, and triple superphosphate, and would be built at Ain Al-Sokhna at the southern end of the Suez Canal (MEED, 2015).

### ***Mineral Fuels and Related Materials***

**Coal.**—No coal was produced in Egypt in 2015. The Government was looking for investors to reopen the Maghara Mine in North Sinai, which held 21 Mt of proven coal reserves and had been inactive in recent years owing to low production coupled with environmental quality concerns. The country had been importing more than 2 Mt of coal annually in recent years despite opposition by environmental organizations in the country. Egypt's consumption of coal was expected to increase in 2016 following the conversion of aluminum, cement, coke, iron and steel, and steel plants, and powerplants from using natural gas to coal as fuel in 2015. The costly conversion to coal-powered plants from natural gas-powered

plants resulted from the absence of a sufficient supply of natural gas to aluminum, cement, coke, iron and steel, and steel plants. Egypt's coal industry was expected to receive a \$30 billion investment during the next 5 years to cover the cost of building two coal-fired powerplants. Coal importers required Government permits, which must be renewed every 2 years. Having agreed to use coal, 90% of Egypt's cement plants had converted to the use of coal for production (Green, 2015; Sayed, 2016, p. 117; Sarant, 2017).

**Natural Gas.**—In 2015, Egypt's natural gas production decreased by 7% to 45.6 billion cubic meters from 48.8 billion cubic meters produced in 2014; this was a 26% decrease from the 61.4 billion cubic meters produced in 2011. Natural gas consumption decreased slightly to 47.8 billion cubic meters from 48.0 billion cubic meters in 2014 and a peak of 52.6 billion cubic meters in 2012. The country's proved natural gas reserves at the end of 2015 were estimated to be about 1.8 trillion cubic meters and accounted for 1.0% of the world's total natural gas reserves. Egypt was responsible for 1.3% of the world's total natural gas production in 2015. Seventeen natural gas discoveries were made in Egypt in 2015 compared with 23 in 2014. In fiscal year 2014, 44.4% of natural gas production came from the Matrouh offshore area in the Mediterranean Sea, 29.3% from the Red Sea, 12.5% from Dakahlia, 6.7% from Port Said, 5.8% from Damietta, and 1.2% from North Sinai (BP p.l.c., 2016, p. 20, 22, 23; Central Agency for Public Mobilization and Statistics, 2016, p. 62; Organization of Arab Petroleum Exporting Countries, 2016, p. 22).

In 2015, Eni Group of Italy produced natural gas at the Baltim, El Tamsah, and Ras el Barr gasfields in the Nile Delta and North Port Said concessions. In March, the company signed an agreement with the Government to invest \$5 billion to develop crude petroleum and gas reserves in the country. In August, Eni discovered a gasfield at the Zohr prospect in deep water offshore Egypt. The Zohr gas discovery was the largest discovery in Egypt and the Mediterranean Sea; it was estimated to hold 1 billion cubic meters of natural gas. Production was expected to begin by yearend 2017 (Eni Group, 2015, 2016).

**Petroleum.**—Unlike natural gas, petroleum production had been relatively steady in recent years. The output of crude petroleum (and condensate) increased slightly in 2015 to 264 million barrels (Mbbbl) from about 261 Mbbbl in 2014, which accounted for 1.4% of the world total. Egypt's crude petroleum consumption had been increasing in recent years; it averaged 301 Mbbbl in 2015 compared with 294 Mbbbl in 2014 and 263 Mbbbl in 2011. Twenty-six oil discoveries were made in Egypt in 2015 compared with 34 in 2014. The country held 3.5 billion barrels of proved oil reserves. More than one-half of Egypt's crude petroleum production came from the Western Desert, and the remainder came from the Eastern Desert, the Suez Gulf, the Mediterranean Sea, the Nile Delta, Upper Egypt (southern Egypt), and the Sinai Peninsula (U.S. Energy Information Administration, 2015, p. 3; BP p.l.c., 2016, p. 6, 8, 9; Organization of Arab Petroleum Exporting Countries, 2016, p. 20).

**Refined Petroleum Products.**—Egypt was the leading producer of refined petroleum products in Africa in terms of output. The country's combined refinery throughput at its eight refineries was 522,000 barrels per day (bbl/d) in 2015,

which was significantly less than the installed refining capacity of 840,000 bbl/d. The Government planned to increase its petroleum refining capacity by an additional 600,000 bbl/d by building two new refineries to meet the increased demand for refined petroleum products in the domestic market (BP p.l.c., 2016, p. 16–17).

## Outlook

Egypt's output of aluminum, cement, fertilizer, and iron and steel is likely to rebound in the short to medium term following the Government's implementation of several measures to secure mineral fuels as a source of energy for industries and a long-term policy that includes using nuclear, solar, and wind to generate power. Immediate measures included constructing new coal-fired powerplants, deploying floating storage and regasification units, allowing cement companies to import coal directly, and beginning operations in newly discovered gasfields. Natural gas production is expected to increase following recent discoveries in the Nile Delta and offshore in the Mediterranean Sea. Gold production at the Sukari Mine is expected to increase by about 15% by 2017. Mining output, especially that of industrial minerals, is expected to increase significantly in the short to medium term.

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TABLE 1  
EGYPT: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Thousand metric tons unless otherwise specified)

Commodity <sup>2</sup>	2011	2012	2013	2014	2015
METALS					
Aluminum:					
Primary	321	337	307 <sup>r</sup>	300	300
Secondary	100	100	50	90	90
Total	421	437	357 <sup>r</sup>	390	390
Copper, refined, secondary <sup>e</sup>	126	130 <sup>r</sup>	135 <sup>r</sup>	143 <sup>r</sup>	145
Gold kilograms	6,304	8,148	11,102	11,733	13,653
Iron ore and concentrate:					
Gross weight	1,500	3,000	1,422 <sup>r</sup>	1,500 <sup>r</sup>	1,500 <sup>e</sup>
Fe content (50%)	750	1,500	700 <sup>r</sup>	750 <sup>r</sup>	750 <sup>e</sup>
Metal:					
Pig iron	545	530	540	510	500
Direct-reduced iron	2,932	3,068	3,432	2,882	2,451
Steel, crude	6,486	6,627	6,754	6,485	5,506
Hot-rolled	6,588	7,265	7,438	8,137	7,676
Wire rod	970	1,113	1,219	1,030	873
Ferroalloys: <sup>c</sup>					
Ferromanganese	30	30	30	30	30
Ferrosilicon	56 <sup>r</sup>	55 <sup>r</sup>	51 <sup>r</sup>	62 <sup>r</sup>	62
Manganese ore:					
Gross weight	108	100 <sup>r</sup>	85 <sup>r</sup>	50 <sup>r</sup>	34
Mn content	36	33 <sup>r</sup>	28 <sup>r</sup>	17 <sup>r</sup>	11
Tin, concentrate metric tons	--	100	111	111	--
INDUSTRIAL MINERALS					
Barite metric tons	1,168	4,000 <sup>r</sup>	3,800 <sup>r</sup>	4,000 <sup>r</sup>	7,540
Cement, hydraulic, all types	43,884	55,200	50,000	49,100 <sup>r</sup>	51,600
Clay:					
Bentonite metric tons	33,132	17,709 <sup>r</sup>	4,600 <sup>r</sup>	3,615 <sup>r</sup>	40,244
Kaolin do.	300,000 <sup>e</sup>	300,000 <sup>e</sup>	300,000 <sup>e</sup>	300,000 <sup>e</sup>	232,351
Feldspar, crude do.	210,000	40,000 <sup>r</sup>	400,000 <sup>r</sup>	400,000	420,508
Fluorspar do.	3,808	7,700 <sup>r</sup>	850 <sup>r</sup>	900 <sup>r</sup>	1,105
Gypsum	2,138	967 <sup>r</sup>	458 <sup>r</sup>	200 <sup>r</sup>	220
Lime <sup>e</sup>	750	800	800	750	750
Mica	3 <sup>e</sup>	3 <sup>e</sup>	3 <sup>e</sup>	3 <sup>e</sup>	10
Nitrogen:					
Ammonia, N content	3,500	3,100	2,700	2,200	1,800
Urea, N content	2,225	2,000	1,813	1,500	1,500
Phosphate:					
Phosphate rock	4,746	6,236	5,922	5,400	5,303
P <sub>2</sub> O <sub>5</sub> content	1,400	1,835	1,777	1,620	1,591
Phosphoric acid	21	64	65	65	65
Sodium compounds:					
Salt	2,500 <sup>r</sup>	2,802	2,800 <sup>r</sup>	1,543 <sup>r</sup>	1,550 <sup>e</sup>
Soda, caustic	213	224	164 <sup>r</sup>	168 <sup>r</sup>	170
Stone, sand and gravel:					
Dolomite	964	21	20	20	20
Granite, dimension stone thousand cubic meters	10	3	3	3	3
Limestone	428	284	618	600	600
Marble blocks thousand cubic meters	276	11	35	40	40
Quartz	28	8	4	100 <sup>r</sup>	101
Sand:					
Industrial sand (glass sand)	389	448	322	350	350
Sand and gravel thousand cubic meters	62	NA	193	200	200
Sulfur:					
Elemental, byproduct	80 <sup>r</sup>	80	80	60 <sup>r,e</sup>	60 <sup>e</sup>
Sulfuric acid, S content	287	360 <sup>e</sup>	392	400	400

See footnotes at end of table.

TABLE 1—Continued  
EGYPT: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Thousand metric tons unless otherwise specified)

Commodity <sup>2</sup>		2011	2012	2013	2014	2015
Talc, soapstone, pyrophyllite	metric tons	12,935	22,000 <sup>r, c</sup>	63,000 <sup>r</sup>	31,066 <sup>r</sup>	24,360
Titanium mineral concentrates, ilmenite <sup>c</sup>	do.	--	--	20,000	20,000	20,000
Vermiculite	do.	2,865	2,100 <sup>r</sup>	2,800 <sup>r</sup>	2,700 <sup>r</sup>	8,190
MINERAL FUELS AND RELATED MATERIALS						
Gas, natural:						
Gross production	million cubic meters	61,400	60,900	56,100	48,800 <sup>r</sup>	45,600
Dry	do.	46,329	46,062	44,201	39,237	36,490
Natural gas liquids	thousand 42-gallon barrels	39,785	35,077	65,919 <sup>r</sup>	62,050 <sup>r</sup>	60,079
Petroleum:						
Crude, including condensate	do.	24,990 <sup>r</sup>	260,975	259,150 <sup>r</sup>	260,610 <sup>r</sup>	263,895
Refinery products:						
Liquefied petroleum gas	do.	20,660	22,318	23,304	14,964	5,923
Gasoline and naphtha	do.	63,753	59,923	59,898	57,501	50,297
Kerosene and jet fuel	do.	16,478	13,164	14,282	13,837	15,476
Distillate fuel oil	do.	66,573	60,060	56,233	55,816	56,174
Residual fuel oil	do.	66,174	66,108	67,632	62,118	57,268
Lubricants	do.	2,600	2,600	2,500	2,500	2,500
Asphalt	do.	2,927	2,642	2,903	3,581	3,581
Total	do.	239,165	226,815	226,752	210,317	191,219

<sup>c</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>r</sup>Revised. do. Ditto. NA Not available. -- Zero.

<sup>1</sup>Table includes data available through December 31, 2016.

<sup>2</sup>In addition to the commodities listed, ball clay, basalt, coal, gemstones, iron oxide pigments, methanol, sandstone, and soda ash as well as a number of metals, including magnesite, lead (recycled), and zinc, and manufactured mineral commodities, including carbon black and glass, were produced but available information was inadequate to make reliable estimates of output.

TABLE 2  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum	Aluminium Co. of Egypt (Egyptalum) (Government, 90%, and private interests, 10%)	Nag Hammadi	320.
Aluminum, secondary	Egyptian Copper Works Co. [Holding Company for Metallurgical Industries (HCMII)]	Alexandria	50.
Do.	Arab Aluminium Co. S.A.E.	Ismaelia	15.
Do.	Egyptian Aluminium Products Co. (Alumisir)	Helwan and El Obour	12.
Do.	General Metals Co.	Helwan	6.
Do.	Helwan Company for Nonferrous Industries (Ministry of Defense)	do.	45.
Do.	Al Saad Aluminium Co.	Mostorod	10.
Do.	Al Qantara for Ferrous Metals Co.	Suez	25.
Barite	El Nasr Mining Co. (Holding Company for Metallurgical Companies, 100%)	NA	NA.
Do.	Rasheed Performance Minerals Group (RPM)	Borg El Arab Industrial Development Zone	100.
Calcium carbonate	ASCOM Carbonate and Chemical Manufacturing (Qalaa Holding, 100%)	El Minya, Upper Egypt	500.
Carbon black	Alexandria Carbon Black Co. (Egyptian Holding Co. for the Chemical Industry, 49%; Inco-Bharat, 36%; Grasim Industries 15%)	do.	20.
Cement	Al-Arish Cement (Ministry of Defense)	Al-Arish	NA.
Do.	Alexandria Portland Cement Co. (Government, 77%, and private interests, 23%)	El Mex	800.
Do.	Amirya Cement Co. [Cimentos de Portugal, SGPS, S.A. (Cimpor)]	do.	4,450.
Do.	Arab Swiss Engineering Co. (ASEC) (Suez Cement Co., 68.7%)	Helwan	3,615.
Do.	Arabian Cement Co. (Cementos La Union S.A.)	Ain Al-Sokhna	5,000.
Do.	ASEC Minya Cement Co. (Misr Qena Cement Co.)	El Minya	2,000.
Do.	Assiut Cement Co. (Cemex Egypt)	Assiut	4,752.
Do.	Egyptian Cement Co. (Lafarge S.A., 54%; private interests, 26%; Holcim Ltd., 20%)	70 kilometers east of Cairo	10,600.
Do.	Helwan Cement Co. (Italcementi Group, 98.69%)	Helwan	4,500.
Do.	Misr Beni Suef Cement Co.	Beni Suef	2,800.
Do.	Misr Qena Cement Co. (ASEC Cement, 27.55%, Misr Insurance Co., 10.85%, Egyptian Company for Investment Projects, 10.04%; Egyptian Kuwaiti Investment Co., 9.87%; Misr Company for Life Insurance, 9.37%; National Capital Holding Co., Egyptian Company for Financial Investment, 7.53%; National Investment Bank, 3.32%)	Qena	2,000.
Do.	National Cement Co. (Government, 77%, and private interests, 23%)	El Tabbin	3,100.
Do.	Royal El Minya Cement	Samallot City, El Minya	500.
Do.	Sinai Cement Co. (Vicat Group)	Sinai	1,500.
Do.	South Valley Cement Co.	Beni Suef Industrial Zone	1,500.
Do.	Sinai White Cement Co.	do.	410.
Do.	Suez Cement Co. (Italcementi Group)	Suez	4,200.
Do.	TITAN Cement Egypt (TITAN Cement Co., 100%)	Alexandria and Beni Suef	3,300.
Do.	Torah Portland Cement Co. (Italcementi Group, 66.12%)	Torah	4,625.
Clay:			
Bentonite	Rasheed Performance Minerals Group (RPM)	Borg El Arab Industrial Development Zone	225.
Kaolin	El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)	NA	NA.

See footnotes at end of table.

TABLE 2—Continued  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Coking coal	El Nasr Coke and Chemicals Co. (Government, 100%)	Helwan	1,400.
Copper, refined	Egyptian Copper Works Co. [(Holding Company for Metallurgical Industries) (HCMI)]	Hagar El Nouatia, Alexandria	130,000.
Do.	Egyptian Metal Works	Cairo	NA.
Feldspar	Mining Engineering Company (Knouz)	Aswan	NA.
Ferrosilicon	Egyptian Ferroalloys Co.	Idfo, Aswan	50.
Fertilizers:			
Nitrogenous	Abu Qir Fertilizer & Chemical Industries Co. [private and public interests, 80.9%, and Egyptian General Petroleum Corp. (EGPC), 19.1%]	Abu Qir A	565 (ammonia), 365 (urea).
Do.	do.	Abu Qir B	876 (urea).
Do.	do.	Abu Qir C	330 (ammonia), 640 (urea).
Do.	Alexandria Fertilizer Co. (Alexfert) (private, 80%, and Abu Qir Fertilizer & Chemical Industries Co., 20%)	Alexandria	730 (ammonia), 720 (urea).
Do.	Egypt Basic Industries Corp. (EBIC) (OCI N.V., 60%)	Ain Al-Sokhna	730 ammonia.
Do.	Egyptian Chemical Industries-KIMA (Chemical Industries Holding Co., 55.7%; public organizations, 39.2%; private investors, 5.5%)	Aswan	330 (ammonia), 600 (nitric acid), 800 (ammonium nitrate).
Do.	Egyptian Fertilizers Co. (EFC) (OCI N.V., 100%)	Ain Al-Sokhna	325 (ammonium nitrate), 1,550 (urea).
Do.	El Delta Company for Fertilizers and Chemical Industries (ASMEDA) (Government, 100%)	Talkha, Mansoura	400 (ammonia), 297 (nitric acid), 570 (urea).
Do.	El Nasr Fertilizers and Chemicals Co. (SEMADCO) (Government, 100%)	Attaka, Suez	132 (ammonia), 193 (nitric acid), 200 (ammonium nitrate).
Do.	Helwan Fertilizers Co. (private)	Free zone, Helwan	438 (ammonia), 700 (urea).
Do.	Misr Fertilizer Production Co. S.A.E. (MOPCO) [Egyptian Petrochemical Holdings Co. (ECHEM), 30.75%; National Investment Bank, 12.82%; Egyptian Natural Gas Holding Co. (EGAS), 7.62%; Egyptian Company for Natural Gas, 5.72%; others, 17.10%]	Free zone, Damietta	876 (ammonia), 680 (urea).
Phosphatic	Abu Zaabal Fertilizers and Chemicals (private, 100%)	Qalyubiyah	1,530 (superphosphate), 95 (phosphoric acid).
Do.	Egyptian Financial and Industrial Co. (private, 100%)	Kafr El Zayat	900 (superphosphate).
Do.	do.	Assiut	750 (superphosphate).
Do.	Polyserve for Fertilizers and Chemicals (private, 100%)	Cairo	320 (superphosphate).
Do.	Suez Company for Fertilizers Production (Egyptian Financial and Industrial Co., 99.8%)	Ain Al-Sokhna	600 (superphosphate), 20 (dicalcium phosphate).
Fluorspar	metric tons Egyptian Company for Mineral Resources (ECMR)	NA	4,500.
Do.	do. El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)	NA	5,000.
Gold	kilograms Sukari Gold Mine Co. [Centamin plc, 50%, and Egyptian Company for Mineral Resources (ECMR), 50%]	Sukari Gold Mine	15,000.
Do.	do. Hamash Misr for Gold Mines [Matz Holdings Ltd., 50%, and Egyptian Company for Mineral Resources (ECMR), 50%]	Hamash Gold Mine <sup>1</sup>	500.
Glass wool	ASCOM Carbonate and Chemical Manufacturing (Qalaa Holding, 100%)	Ain Al-Sokhna	120.
Gypsum	ASCOM Geology and Mining (Qalaa Holding, 100%)	Ras Sedr, South Sinai	216.
Do.	El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)	NA	NA.
Do.	Modern Suez Gypsum Company SAE	Wadi Grendel, Sinai	2,400.

See footnotes at end of table.

TABLE 2—Continued  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
<b>Iron:</b>				
Ore		Egyptian Iron and Steel Co. (Hadisolb) (Government, 100%)	El-Gedida Mine, El Bahariya	1,200.
Oxides		El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)	Mines near Sinai and Aswan	150.
Direct-reduced		Ezz El-Dekheila Steel Co. (EZDK) (Al Ezz Steel Rebars S.A., 55%)	El-Dekheila I	720.
Do.		do.	El-Dekheila II	800.
Do.		do.	El-Dekheila III	800.
Do.		Egyptian Sponge Iron and Steel Co. (ESISCO)	Sadat City	1,760.
Do.		Ezz Rolling Mill Co. S.A.E. (Al Ezz Steel Rebars S.A.)	Alexandria and Suez	1,900.
Do.		Suez Steel Co. (Solb Misr)	Suez	1,950.
Lime		do.	do.	183.
Manganese		El Nasr Mining Co. [Holding Company for Metallurgical Industries (HCM), 100%]	NA	NA.
Methanol		El Delta Co. for Fertilizers & Chemical Industries	Talkha	24.
Natural gas	million cubic meters	Egyptian General Petroleum Corp. (EGPC) (Government, 100%)	Abu Madi	3,800.
Do.	do.	do.	Badreddin-3	3,000.
Do.	do.	do.	Abu Qir-Naf	1,900.
Do.	do.	do.	Ras Shukheir	1,600.
Do.	do.	Grupo Khalda (Repsol YPF, S.A., 50%; Apache Oil Co., 40%; Samsung Corp., 10%)	Khalda	24.
Do.	do.	Eni Group, 50%	Baltim, El Temsah, Ras el Barr, North Port Said	10,000.
<b>Petroleum:</b>				
Crude	thousand 42-gallon barrels	Gulf of Suez Oil Co. [Egyptian General Petroleum Corp. (EGPC), 50%, and BP p.l.c., 50%]	October field, Suez Gulf	45,000.
Do.	do.	do.	El Morgan field, Suez Gulf	27,000.
Do.	do.	Belayim Petroleum Co. [Egyptian General Petroleum Corp. (EGPC), 50%, and International Egyptian Oil Co., 50%]	Belayim field, Suez Gulf	65,000.
Do.	do.	Suez Oil Company [Egyptian General Petroleum Corp. (EGPC), 50%; Deminex SA, 25%; Repsol S.A., 25%]	Ras Budran field, Suez Gulf	15,000.
Pipeline	do.	Arab Petroleum Pipeline Co. (Governments of Egypt, 50%; Saudi Arabia, 15%; Kuwait, 15%; United Arab Emirates, 15%; Qatar, 5%)	Ain Al-Sokhna to Sidi Kir	875,000.
Refined	do.	Cairo Oil Refining Co. (CORC) (Government, 100%)	Mostorod	51,830.
Do.	do.	do.	Tanta	19,710.
Do.	do.	Alexandria Petroleum Co. (Government, 100%)	Alexandria, El-Mex	41,975.
Do.	do.	El Nasr Petroleum Refining Co. (Government, 100%)	Suez	36,500.
Do.	do.	Assiut Petroleum Refining Co. [Ganoub El Wadi Holding Co. (Ganope), 100%]	Assiut	18,250.
Do.	do.	Amreya Petroleum Refining Co. (Government, 100%)	Alexandria, Amreya	27,375.
Do.	do.	Suez Petroleum Processing Co. (Government, 100%)	Suez	24,820.
Do.	do.	Middle East Oil Refinery [Egyptian General Petroleum Corp. (EGPC), 78%; Engineering for Petroleum and Processing Industry (ENPPI), 10%; Petroleum Projects and Technical Consultations Co. (Petrojet), 10%; Suez Canal Bank, 2%]	Alexandria Amreya Freezone	100,000.
Phosphate rock		El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)	Mines at El Sebaaya, El Quseir, and Red Sea	5,000.
Do.		Phosphate Misr Co. S.A.E. (PMC)	Abu Tartur	3,000.

See footnotes at end of table.

TABLE 2—Continued  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Phosphate rock—Continued	Al Wadi Al Gadid Company for Mineral Resources and Oil Shale (Wadico)	Al Wadi Al Gadid,	1,000.
Do.	Egyptian Company for Mineral Resources (ECMR)	Aswan	500.
Sand, industrial:			
Glass sand	ASCOM Geology and Mining (Qalaa Holding, 100%)	Minya Industrial Zone	180.
Do.	Egypt for Mining S.A.E (Multi Min)	Abu Heesh Valley, South Sinai	365.
Do.	do.	Homayer Valley, South Sinai	366.
Quartz	El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)	NA	235.
Do.	Egyptian Company for Mineral Resources (ECMR)	Branice near Marsa Alam	NA.
Do.	Mining Engineering Company (Knouz)	Aswan	NA.
Do.	Misr Quarried Development Co.	Attaka Mountain	NA.
Do.	International Group for Industrial & Agricultural Investment	Marsa Alam and South Aswan	NA.
Salt	El Nasr Salines Co.	Burj Al-Arab	300.
Do.	do.	Sebika	2,000.
Do.	El Mex Salines Co.	El Mex	1,400.
Do.	do.	Port Said	350.
Soda, ash	Salvoy Alexandria Sodium Carbonate S.A.E.	Alexandria	130.
Soda, caustic	Egyptian Petrochemical Co. [Egyptian General Petroleum Corp. (EGPC), 100%]	do.	120.
Steel:			
Crude	Al Ezz El-Dekheila Steel Co. (EZDK) [Al Ezz Steel Rebars S.A. (Ezz Steel), 55%]	do.	6,000.
Do.	Egyptian Iron and Steel Co. (Hadisolb) (Government, 100%)	Helwan steel plant	600.
Do.	Suez Steel Co. (Solb Misr)	Ain Al-Sokhna	2,000.
Do.	Beshay Steel Group	Sadat City	1,200.
Flat	Ezz Flat Steel Co. (Al Ezz Steel Rebars S.A., 55%)	Suez	1,300.
Do.	Egyptian Iron and Steel Co. (Hadisolb) (Government, 100%)	Helwan steel plant	1,000.
Rebar	Al Ezz Steel Rebars S.A.	Sadat City	1,000.
Do.	Ezz Rolling Mills S.A.	Tenth of Ramadan City	500.
Do.	Delta Steel Mill Co.	Qalyubiyah	200.
Do.	Kandil Steel	Tenth of Ramadan City	1,000.
Do.	Suez Steel Co. (Solb Misr)	Ain Al-Sokhna	2,500.
Do.	National Port Said Steel	Port Said	350.
Do.	Misr National Steel Co.	Heliopolis	360.
Do.	Kouta Steel Group	Port Said	360.
Do.	Egyptian Steel Group	do.	350.
Do.	do.	Alexandria	300.
Sulfuric acid	Abu Zaabal Fertilizers and Chemicals (Government, 100%)	Qalyubiyah	350.
Do.	Egyptian Financial and Industrial Co. (private, 100%)	Kafr El Zayat	175.
Do.	do.	Assiut	205.
Do.	Egyptian Company for Phosphate and Compound Fertilizers (Egyphos)	Edfu	800.
Do.	El-Nasr Co. for Fertilizer & Chemical Industries (SEMADCO)	Attaka	300.
Do.	El Nasr Company for Intermediate Chemicals (NCIC) (Government, 100%)	Alexandria	165.
Do.	Suez Company for Fertilizers Production (Egyptian Financial and Industrial Co., 99.8%)	Ain Al-Sokhna	425.

See footnotes at end of table.

TABLE 2—Continued  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity	
Sulfuric acid—Continued	Middle East Oil Refinery [Egyptian General Petroleum Corp. (EGPC), 78%; Engineering for Petroleum and Processing Industry (ENPPI), 10%; Petroleum Projects and Technical Consultations Co. (Petrojet), 10%; Suez Canal Bank, 2%]	Alexandria Amreya Freezone	20.	
Talc	El Nasr Mining Co.	Aswan	50.	
Do.	Egyptian Company for Mineral Resources (ECMR)	Southeastern Desert	NA.	
Tin	metric tons	Tantalum Egypt J.S.C. [Tantalum International Pty Ltd., 50% and Egyptian Company for Mineral Resources (ECMR), 50%]	Mine at Abu Dabbab <sup>2</sup>	100.
Titanium mineral concentrates, ilmenite	El Nasr Mining Co. (Holding Company for Metallurgical Companies, 100%)	NA	120.	
Do.	Misr Quarried Development Co.	NA	NA.	
Do.	Egyptian Company for Mineral Resources (ECMR)	NA	NA.	

Do., do. Ditto. NA Not available.

<sup>1</sup>On care-and-maintenance status.

<sup>2</sup>Production stopped in 2014.